oncaring

onall

Installation Manual

Version: 3.1.3

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www.oncaring.com

Welcome

We hope that the onAll platform will be a useful tool that will allow you to offer better care to your customers.

If you find anything that you would like to see improved in the product or if you have any suggestions or comments, please report them to the onCaring team.

This document version applies to the Release 3.1.2 of the onAll product.

Table of Contents:

Introduction

This document describes the necessary information to install and configure the onAll system.

It has two major parts:

1. onAll server – describe the installation steps of the software part of the system.
2. onAll devices - describes the preparation steps for each type of device that is integrated with the onAll core system.

Wireless network

The onAll system works based on a wireless infrastructure. All the considerations for its setup and configuration are not covered in this document.

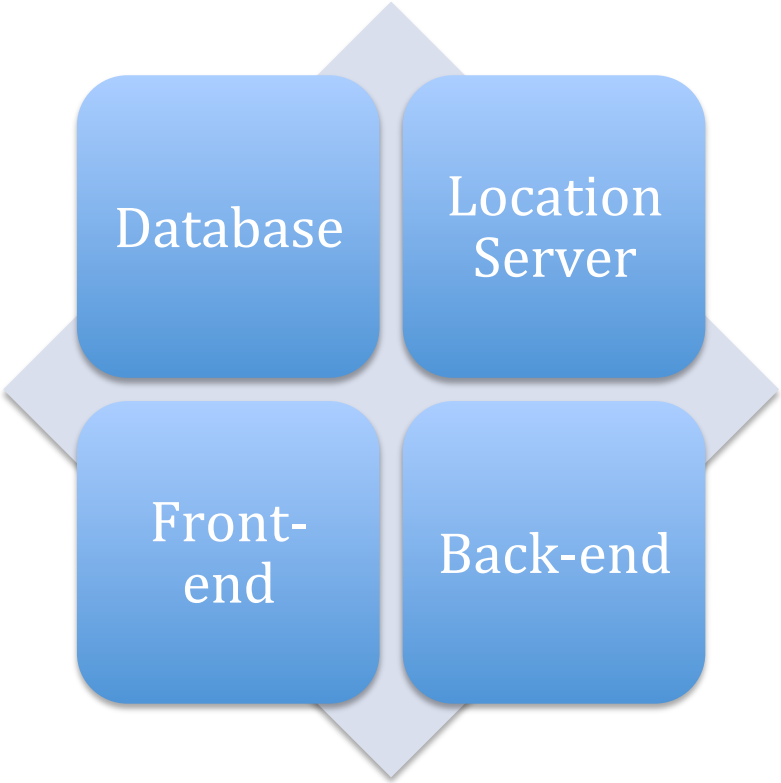
For further detail on this subject, please check the document named Wi-Fi Network Best Practices.

onAll Server

This section describes the necessary steps to install the software part of the onAll system in a Microsoft Windows environment.

The onAll system has 4 major components:

1. Database
2. Front-end
3. Back-end
4. Location server



The 3 first components: Database, Front-End and Back-End are automatically installed in only one step.

The Location Server module is installed separately.

The installation procedures for both steps are described below.

Requirements

The onAll platform needs the following infrastructure to work:

For the onAll core (Front-end, Back-end and Database), it is necessary to fulfil the following requirements:

Minimum system:

- Single core processor (Intel® Pentium® 4 or equivalent), 2.4 GHz
- 1 GB RAM
- Windows® 7 Professional

Recommended System:

- Dual core processor (Intel® Core® 2 Duo), 2.10 Ghz
- 2 GB RAM
- Windows® 7 Professional

For the Ekahau location server, the configuration should be evaluated for installations aimed to control a high number of customers.

For the Location server the requirements are:

Minimum system:

- Intel® Pentium® processor, 2GHz
- 1 GB RAM
- Minimum free space on hard disk: 500 MB
- Windows ® XP Professional 64 bits, Windows ® 2000 or Windows ® 2003 Server 64 bits

Recommended System for a monitoring are up to 5.000 m^2 or up to 100 devices:

- Intel® Pentium® 4
- 1 GB RAM
- Windows® 7 Professional 64 bits

Recommended System for a monitoring are up to 50.000 m^2 or up to 500 devices:

- Intel® Pentium® 4 or Intel® Xeon®
- 1 GB RAM
- Windows® 7 Professional 64 bits or Windows Server® 2008 64 bits

Recommended System for a monitoring bigger then 50.000 m^2 or with more than 500 devices:

- Intel® Xeon®
- 2 GB RAM

- Windows® 2008 Server 64 bits

It is also possible to have all components running in one server only.

Installation Steps

Step 1 – Prepare Installation

Get the CD with the complete installation package from onCaring team.

Firewall Ports

The following ports should be open on the firewall in order for onAll to work properly:

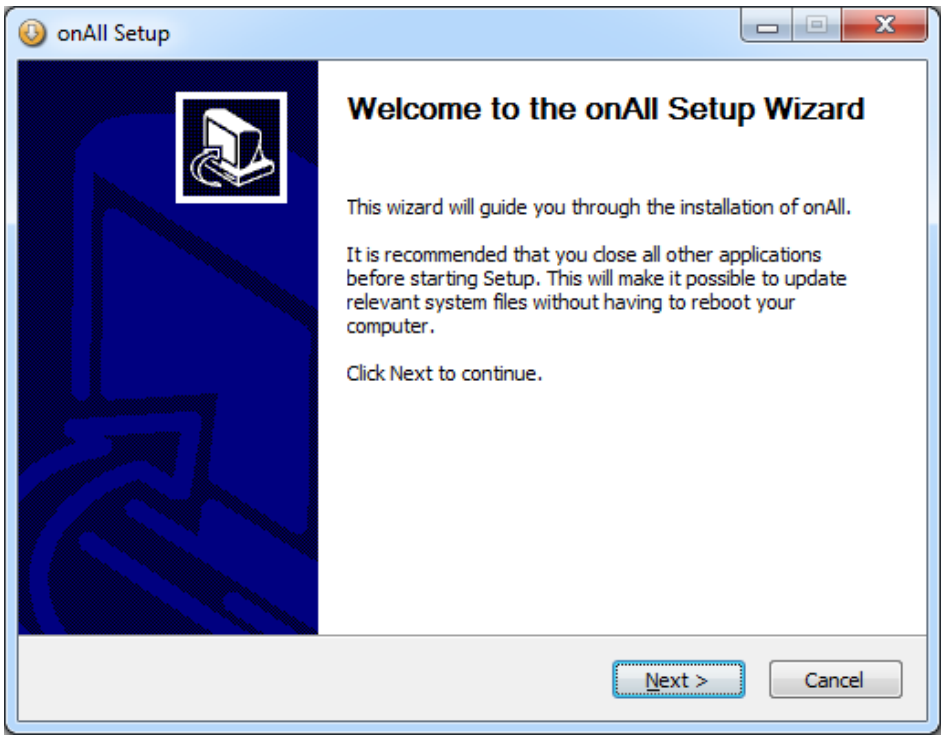
Port	Protocol	Description
80	tcp	onAll web access
443	tcp	onAll web access
8182	tcp	Android application
9090	tcp	Android application
8552	udp	Ekahau
8553	udp	Ekahau
8550	tcp	Ekahau
5432	tcp	PostgreSQL
5003	udp	Wiseware

Step 2 – Install the components: Database, Front-End & Back-End

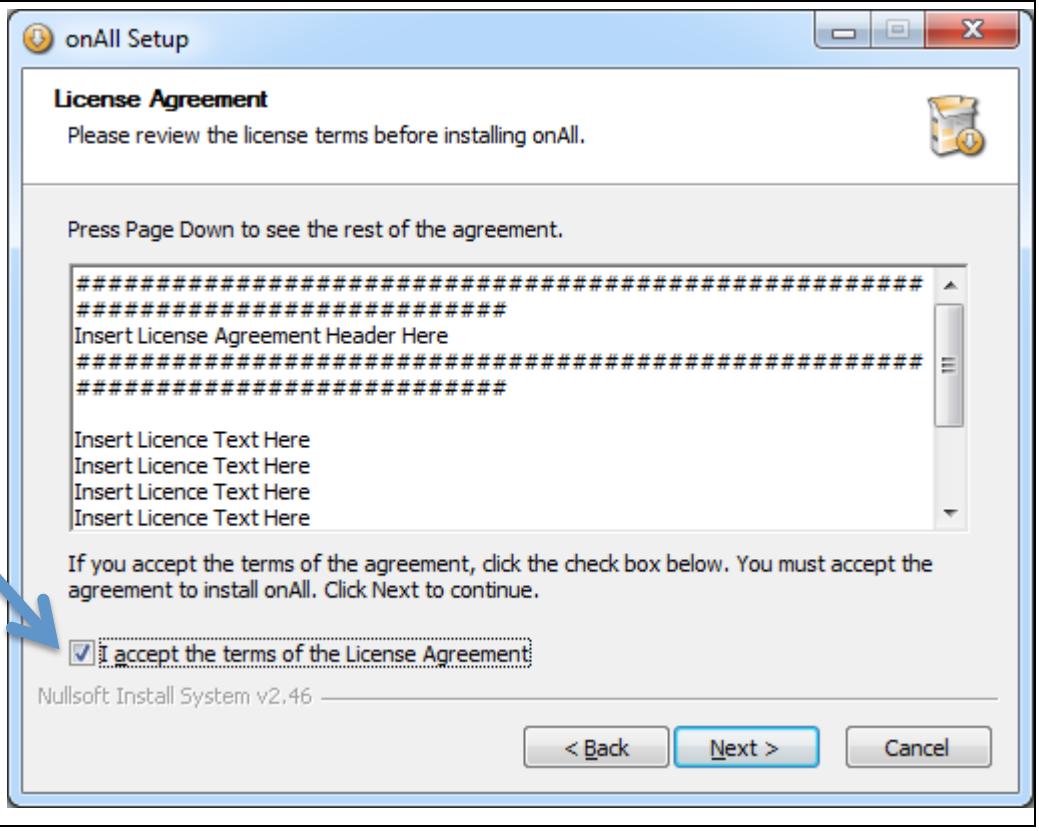
The database is PostgreSQL; the front-end runs on Ruby and the back-end framework is the knopflerfish, an open-source OSGI service platform.

All of the installation files that are necessary are available in the installation CD. And the installation procedure for these components is very easy to follow in a Next-Next approach with very few input options.

1. Run the executable file named **install.exe** that is located in the root of the CD.
   You should get a welcome message marking the beginning of the installation. Click Next.

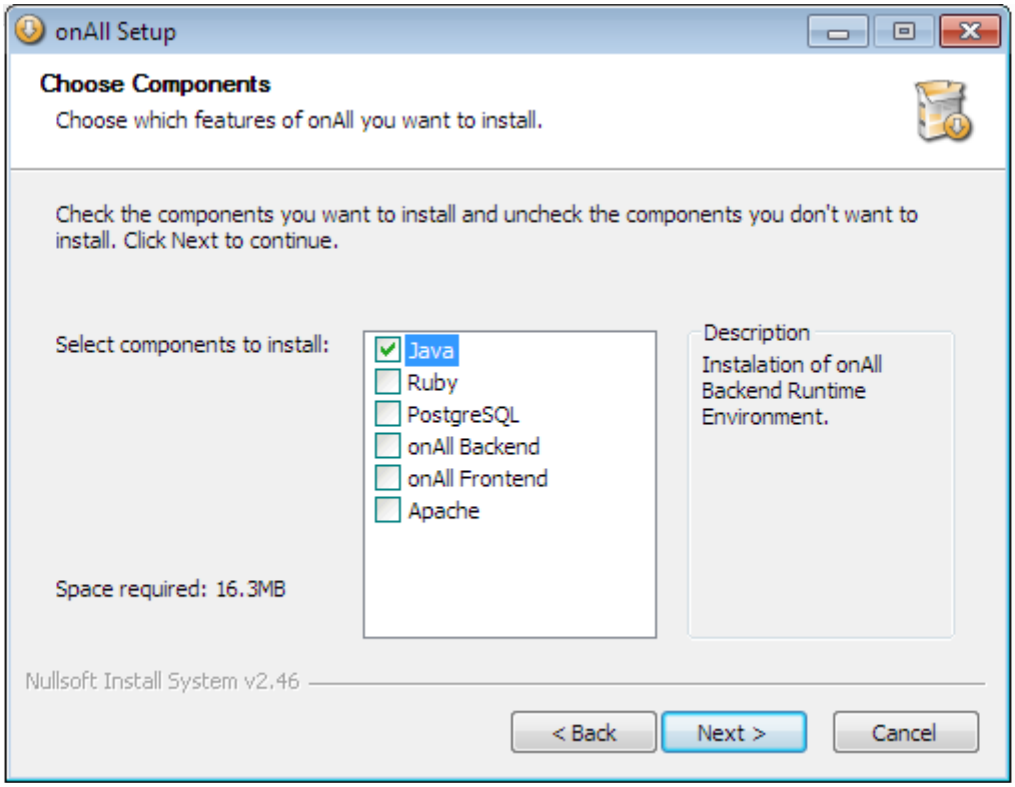


2. On the License Agreement dialog box, make sure that the option for the acceptance of the terms is selected and click Next.

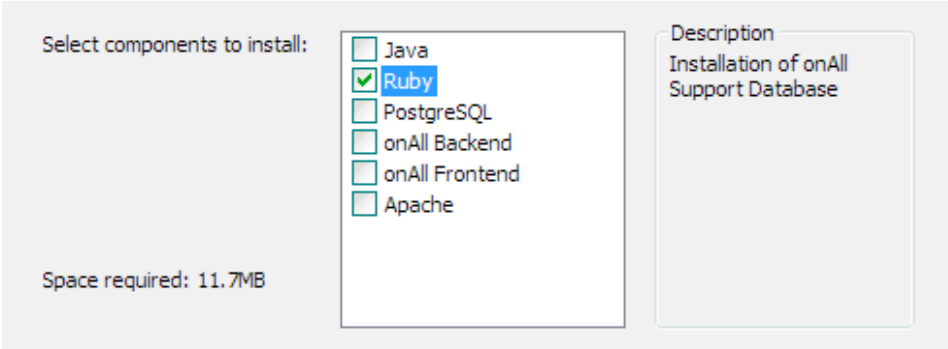


3. Select one or more components to install, according to the options:

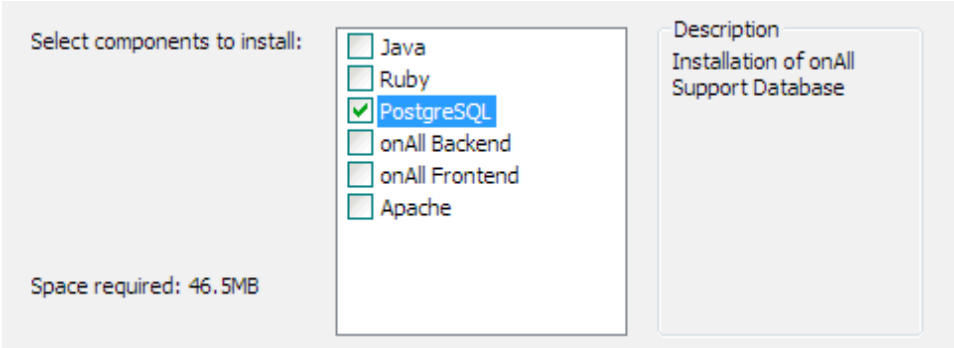
- For the onAll Back-End Runtime environment:



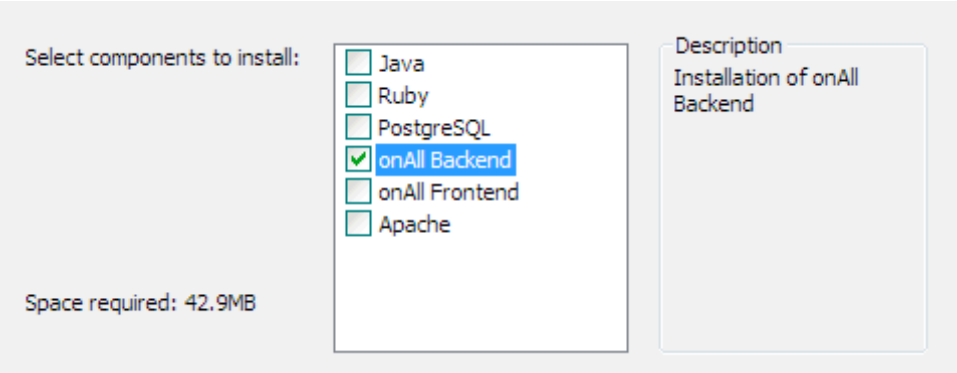
- For the onAll Front-End Runtime environment:



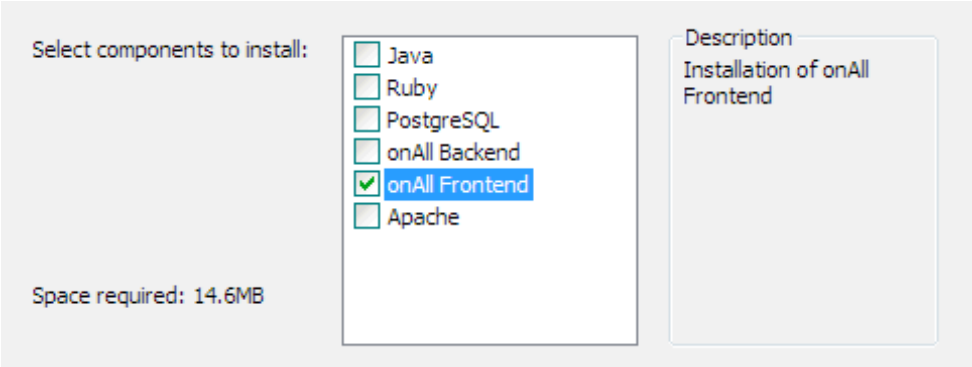
- For the onAll Database:



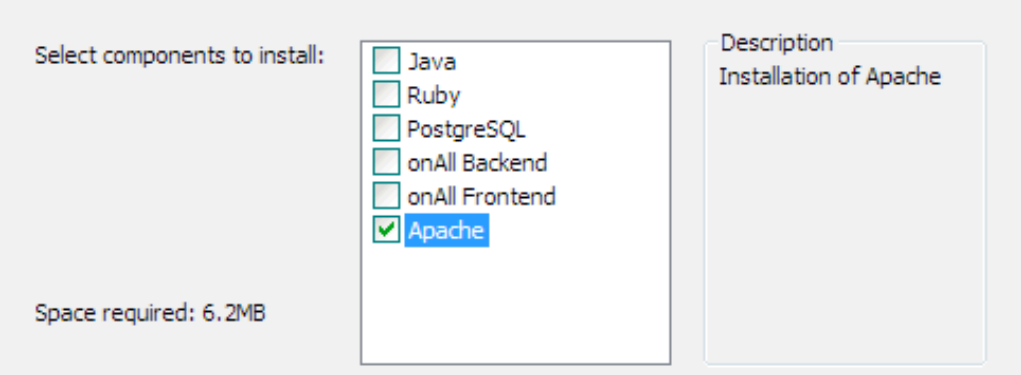
- For the onAll Back-End Runtime:



- For the onAll Front-End Runtime:

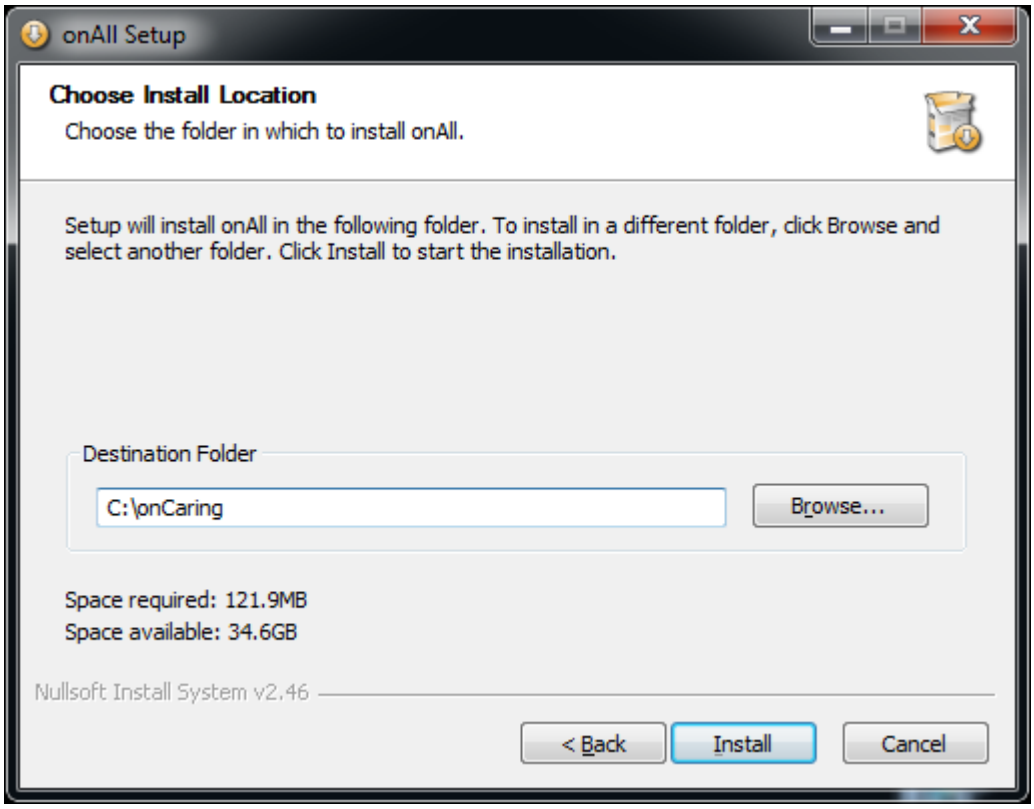


- For the onAll Front-End Runtime:



You can see the amount of needed disk space required the components being installed.
Once the intended components are selected click Next

4. Select a folder for the installation location (e.g., C:\onCaring) and click Next.



Important Note: In case he product is installed in a folder containing brackets, for example C:\Program Files (x86), then the following steps must be done:

- ✓ Go to command line and run command “dir/x” in order to retrieve the short name for that directory (ex. progra~2);
- ✓ Go to onAll installation directory and go to runtime\apache\conf\extras;
- ✓ Edit the file httpd-ssl.conf;
- ✓ Search for the line, normally line 62, with:

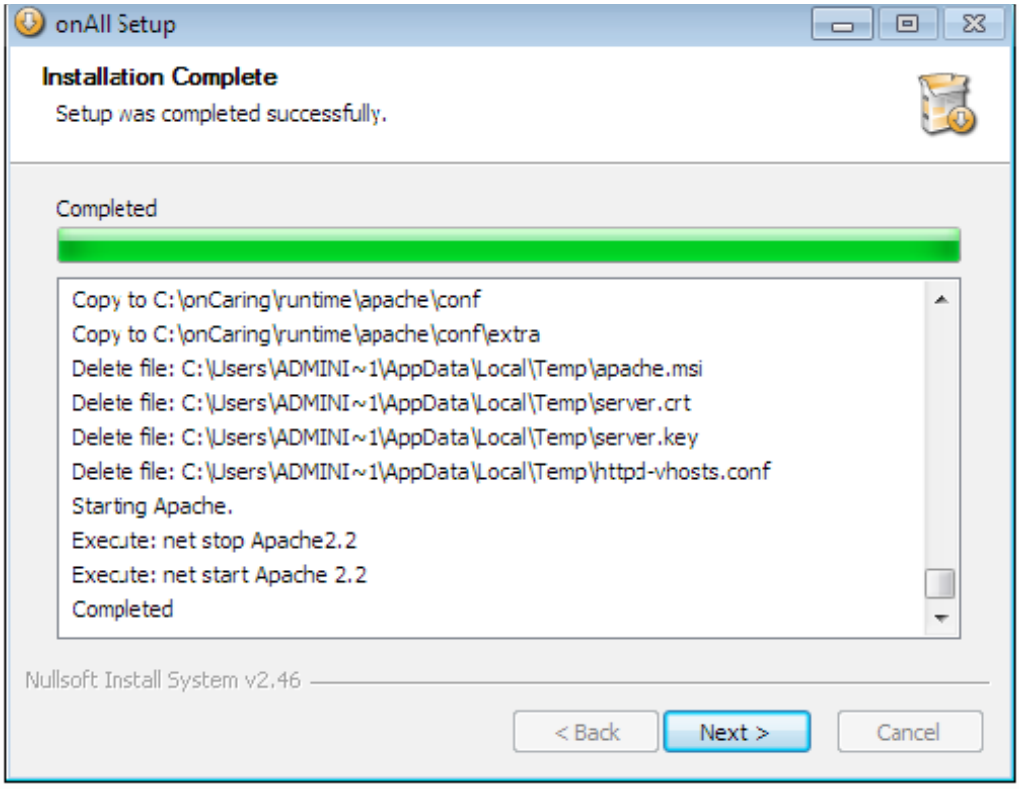
```
SSLSessionCache "shmcb:C:\Program Files(x86)/onCaring/runtime/apache/
                        logs/ssl_scache(512000)"
```

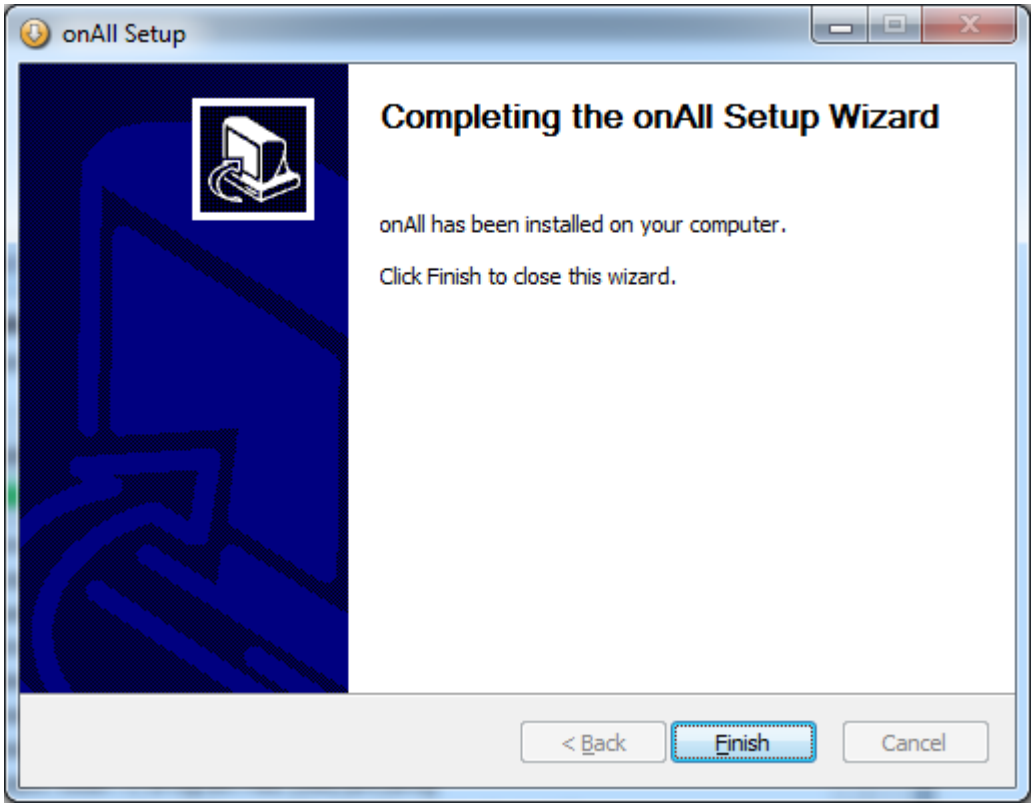
And change the folder with the brackets for the short name, so that it looks like this:

```
SSLSessionCache "shmcb:C:\progra\~2/onCaring/runtime/apache/
                        logs/ssl_scache(512000)"
```

Do not forget to escape the symbol ~ with \ like shown above.

5. The installation process runs and gives a success message when concluded.





Click Finish to leave the installation wizard.

Step 3 – Back-end configuration

There are 4 configuration files:

1. configuration.xml (located in folder c:\etc\vitalsen\)
2. ekahauconfig.xml (located in folder c:\etc\vitalsen\)
3. constants.rb (located in folder \onAll\web\config\initializers\)
4. wiseware.xml (located in folder c:\etc\vitalsen\)

The detail about the possible configurations that can be done in each one is detailed below.

configuration.xml

```
<Heart-Rate polling="30"/><!-- value in minutes-->
<Temperature polling="30"/><!-- value in minutes-->
<Promote-Event time="180"/><!-- value in seconds-->
<Escort-Timeout time="3"/><!-- value in minutes-->
<Weight polling="60"/>
<BP polling="60"/>
```

- Heart Rate: The interval between consecutive heart rate readings
- Temperature: The period where the system will ask the devices for a new temperature measurement
- Weight: The period where the system will ask the devices for a new weight measurement
- BP: The period where the system will ask the devices for a new blood pressure measurement
- Promote-Event: The time it takes for an event to be escalated
- Escort-Time: The time after witch the users will be warned that an escort is taking too long

```
<Database-Configuration>
    <dbHost>127.0.0.1</dbHost>
    <dbPort>5432</dbPort>
    <dbName>bluewater_new</dbName>
    <dbUserName>vital</dbUserName>
    <dbPassword>vitalsen</dbPassword>
</Database-Configuration>
```

- This represents the database configuration for the installation performed earlier and should not need to be change, unless you are using your own database installation

```
<SMS enabled="true">
    <ClickaTell>
        <username> username </username>
        <password>password</password>
        <apiID> apiID </apiID>
    </ClickaTell>
</SMS>
```

- Allows the system to send SMS, (example: the SMS that is sent to the Administrator as the last step of escalation of an alarm). You must fill the credentials from the Clickatell service account from the organization. If you do not have one you can create it on https://www.clickatell.com/.

ekahauConfig.xml

Configuration of the access to the Location server and the interpretation of some parameters of the Ekahau devices.

```
<CommEkahau port="8550" host="10.11.128.11" username="user"
    password="passwd"/>
```

- **port** – Ekahau's RTLS port (8550 by default)
- **host** - Location server ip
- **username** and **password** – credentials to access Location server

```
<Battery>
    <low-battery-level value="11"/> <!-- this is a percentage -->
    <depleted-battery-level value="2"/> <!-- this is a percentage -->
</Battery>
```

- **low-battery-level** and **depleted-battery-level** – battery level in % that are interpreted by the onAll as low level and depleted level.

```
<Sensor-Configuration>
    <t301BD> <!-- this represents the caregiver tag -->
        <unreachable time="300"/> <!-- time in seconds -->
        <yank-propagation>wing</yank-propagation> <!-- possible values are
            floor/facility/disabled -->
    </t301BD>
    <t301W> <!-- this represents the dementia tag -->
        <unreachable time="300"/> <!-- time in seconds -->
    </t301W>
</Sensor-Configuration>
```

- Configuration of the caregiver device:
  - **unreachable** – the interval, in seconds, since the last communication, after which the device is considered out of range.
  - **yank-propagation** – area considered for sending the request for help from one caregiver to the other caregiver devices (all the caregivers in the same floor, the entire facility or none that means that no alarm is sent).
- Configuration of the wrist device (for customers):
  - **unreachable** – how long after will the onAll platform wait after missing contact with the device to interpret the device as being out of range.

constants.rb

To configure the path to the Location Server (by default it is located in localhost:8550).

```
# -*- encoding : utf-8 -*-
WS_IP = "127.0.0.1"
MAX_SESSION_PERIOD = 15
PATIENT_MAP_VIEW_ENABLED = true
ASSET_MAP_VIEW_ENABLED = true
EPE_HOST = "localhost"
EPE_PORT = 8550
EPE_USER = "admin_user"
EPE_PASS = "admin_pass"
EPE_ROOT = "http://#{EPE_USER}:#{EPE_PASS}@#{EPE_HOST}:#{EPE_PORT}/"
SILENCE_ENABLED = false

EMAIL_BUG = "mail@oncaring.com"
EMAIL_SUG = "mail@oncaring.com"
```

wiseware.xml

To configure the belt clip device. Explanation of each parameter can be found inside of the file as shown in the next example.

```
<device-connection port="5003" timeout-check="2" info-period="5" unreachable="300"/>
<ekahau-connection enabled="true" port="8552" host="10.136.100.46" deviceType="3"
    penalty="10"/>

<device-settings>

    <buzzer enabled="true"/>

    <!-- battery levels in % -->
    <battery low="12" depleted="3" very-low="7"/>

    <!-- Time that the panic button needs to be pressed in order to trigger an
    alarm. 0 (zero) to disable. [multiply by 10ms] -->
    <button-duration>100</button-duration>

    <!-- default fall sensitivity. Possible values are:
    1: Low
    2: Medium
    3: High
    -->
    <fall-threshold>2</fall-threshold>

    <!-- Time that the panic button needs to be pressed in order to shutdown the
    device [in seconds] [0 disables shutdown]-->
    <shutdown>10</shutdown>

    <!-- Time after which an alarm is discarded if the device could not report it
        [in seconds] -->
    <alarm-discard>3600</alarm-discard>

    <!-- Time between the moment the user removes the device and the reflection of
    that information in the INFO messages. [in seconds] -->
    <not-worn>60</not-worn>

    <!-- Period during which the alarms are not reported after the device is worn
        [in seconds]-->
    <event-thr>7</event-thr>

    <!-- Timeout value that the device waits for a reply to an INFO message
    (with the COM_TIMEOUT_EN status flag on). [divided by 10s] -->
    <con-timeout>5</con-timeout>

    <!-- Number of times the device sends INFO messages without waiting for a reply,
     after waiting on one. -->
    <info-wo-cfg>2</info-wo-cfg>
</device-settings>
```

Step 4 – Location server

This step can be optional if the institution already has Ekahau services and the onAll application will use that same instance. In this situation only the previous Back-end configurations must be setup.

To install the Ekahau component, just run the executable named Ekahau RTLS-6.0.2-Setup.exe located in the root of the installation CD, accepting all default options.

After the server is installed, you are able to run the survey to map the areas that are going to be monitored according to what was defined initially. For details about how to run the survey check the Wi-Fi Network Best Practices.

Once the survey it is concluded, it will be necessary to associate the identification of the areas given by Ekahau to the ones already inserted in the table with the Locations that must be done by editing directly the table in the database.

onAll Devices

In this section you can find some specific configuration that need to be done on a device level for each type of device that is used with the onAll platform.

Ekahau devices

The Ekahau devices already come preconfigured by onCaring and they are automatically added to the onAll platform for usage as soon as they start communicating with the system.

Further information about these devices, please contact the onCaring support team.

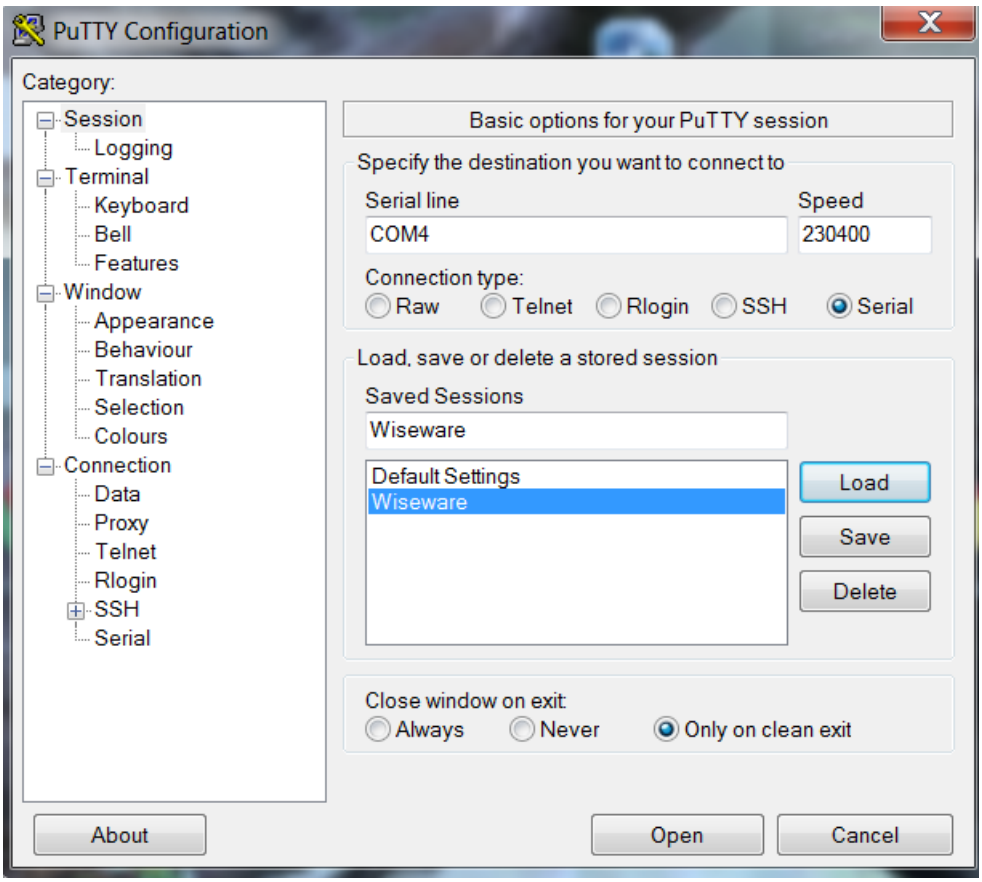
Wiseware device

Follows the description of the configuration steps needed in order to setup the communication of the Wiseware devices with the onAll platform.

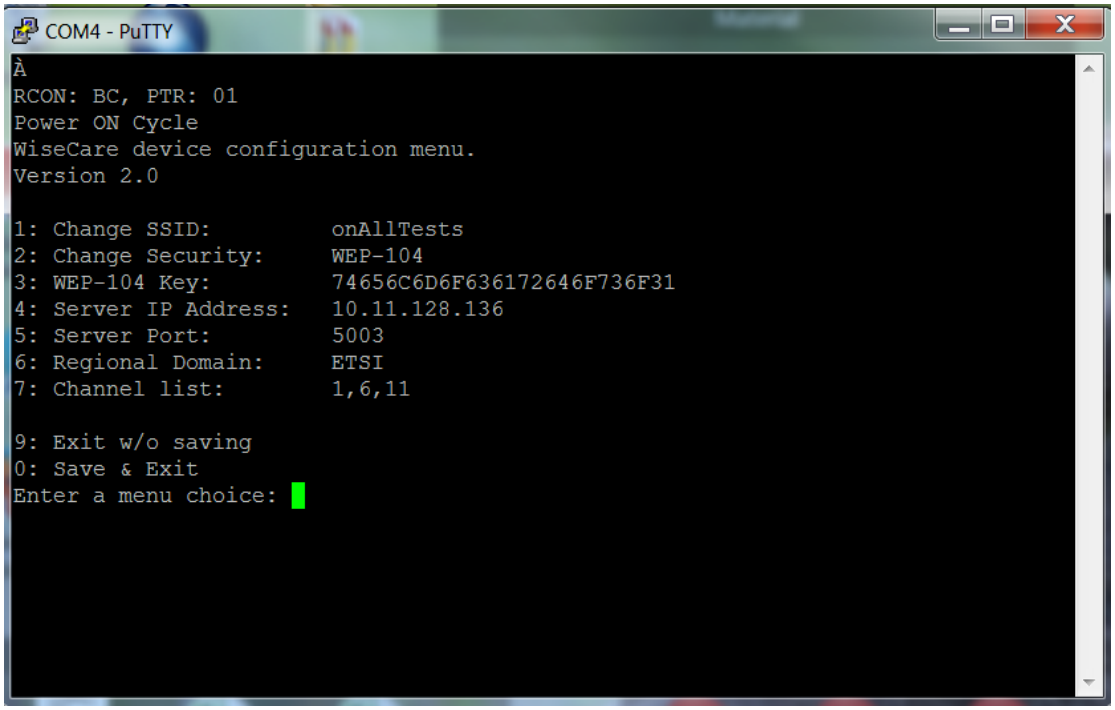
Connect your computer from the USB port to the serial port of the device and establish the connection using Putty or another remote communication tool with the following options:

- Connection type: Serial
- Serial Line: Com1, COM2, …
- Speed (transmission rate): 230400 bps

Click OPEN to create the connection.



If the device is turned on, the command window will appear automatically. If the device is off (which usually is), then you must click continuously on the help button until the red leds turn on and then change to blue, the command window appears then.



The window shows the list of commands that can be executed: the number to issue the command followed by the description of the action. You just have to enter the number correspondent (without clicking Enter) to trigger the action you want to perform.

Regarding option “2: Change security”, the supported encryptions are WEP-40 (or WEP-64), WEP-104 (or WEP-128) and WPA/WPA2.

Note1: If there is a mistake writing the data needed for a specific option you will not be able to correct it (the backspace will not work) and you need to re-enter the command.

Note2: the command window will not stay open for a long period of time if there is a period of inactivity (it assumes option “9: Exit without saving” and the window is closed.

Android device

The Android mobile phone that will be used as the caregiver device needs to be prepared before handed to a caregiver so that there is a smoother adoption.

Install the application in the mobile phone. You will find the application on Google Play (https://play.google.com/store/apps/details?id=com.oncaring.onall.caregiver).

After installed the application is not launched automatically, you will need to start it manually and reboot the device. After this first launch, the app will start automatically each time the device is turned off.

The Caregiver user will not be able to stop the app without knowing the settings access code (pin). By default this pin code is 0000.

There are some Settings options accessible through the app menu that allows the Administrator user to configure some parameters:

1. onAll generic configuration
    - Hostname
    - Port
    - Connection Timeout
    - Retry
    - Alive
    - Wi-Fi Scan – for location purposes
    - Wi-Fi Update - time to send Wi-Fi scans for location updates
    - Rest Settings
        - Port
        - Timeout
    - Movement Settings
        - Use Motion – if enabled allows the device motion to trigger actions
        - Location Threshold - The lower the value the more frequent locations updates due to location will happen

2. Ekahau configuration:
    - Hostname
    - Ekahau Location Port
    - RTLS
        - Username and Password
        - RTLS Port
        - Connection Timeout

In the Setting menu you will also be able to find the Close Application action.

Troubleshooting

For advanced troubleshooting, selective logging with different severity levels can be configured in the file log4j.properties, located in the folder \onAll\srv\osgi\conf\.

log4j.properties

Configuration for logging.

```
log4j.appender.console=org.apache.log4j.ConsoleAppender
log4j.appender.console.layout=org.apache.log4j.PatternLayout
log4j.appender.console.layout.ConversionPattern=%d | %-5p | %-9.24t | %l | %m%n
#log4j.appender.console.layout.ConversionPattern=%d | %-5p | %-9.24t | %c | %l | %m%n # also print category

log4j.appender.SYSLOG=org.apache.log4j.net.SyslogAppender
log4j.appender.SYSLOG.syslogHost=127.0.0.1
log4j.appender.SYSLOG.layout=org.apache.log4j.PatternLayout
log4j.appender.SYSLOG.layout.conversionPattern=%d | %-5p | %-9.24t | %l | %m%n
log4j.appender.SYSLOG.Facility=LOCAL1

log4j.appender.file=org.apache.log4j.FileAppender
log4j.appender.file.File=onall.log
log4j.appender.file.layout=org.apache.log4j.PatternLayout
log4j.appender.file.layout.conversionPattern=%d %-1p %m%n

log4j.rootLogger=DEBUG, console, SYSLOG

#log4j.logger.onCaring=DEBUG
#log4j.logger.onCaring.Alarms=DEBUG
#log4j.logger.onCaring.General=OFF
#log4j.logger.onCaring.Lifecycle=OFF
#log4j.logger.onCaring.Event=OFF
#log4j.logger.onCaring.Event.Siren=OFF
#log4j.logger.onCaring.Siren.Wiseware=OFF
#log4j.logger.onCaring.Siren.Wiseware.Wire=OFF
#log4j.logger.onCaring.Ekahau.UI.Menu=OFF
#log4j.logger.onCaring.Ekahau.UI.Menu.RTLS=OFF
#log4j.logger.onCaring.Ekahau.Alarm=OFF
#log4j.logger.onCaring.Wiseware=OFF
#log4j.logger.onCaring.Wiseware.Wire=OFF
#log4j.logger.onCaring.Wiseware.Lifecycle=OFF

# Axis2
log4j.logger.org.apache.axiom=WARN
log4j.logger.org.apache.axis2=WARN

# Hibernate
log4j.logger.org.hibernate=WARN
#log4j.logger.org.hibernate.SQL=OFF
#log4j.logger.org.hibernate.type=OFF
#log4j.logger.org.hibernate.tool.hbm2ddl=OFF
#log4j.logger.org.hibernate.pretty=OFF
#log4j.logger.org.hibernate.cache=OFF
#log4j.logger.org.hibernate.transaction=OFF
#log4j.logger.org.hibernate.jdbc=OFF
#log4j.logger.org.hibernate.hql.ast.AST=OFF
#log4j.logger.org.hibernate.secure=OFF
log4j.logger.com.mchange.v2=WARN
```

More details about this file can be found at: http://logging.apache.org/log4j/1.2/manual.html